

Attorney Docket No. 13DV-14085 (07783-0113)  
Serial No. 10/784,751

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	KOSTAR et al.	:	Confirmation No. 2241
Serial No.	10/784,751	:	Group Art Unit 1771
Application Filed	February 23, 2003	:	Examiner: Matthew D. Matzek

For: THERMO-MECHANICAL PROPERTY ENHANCEMENT PLIES FOR CVI/SiC  
CERAMIN MATRIX COMPOSITE LAMINATES

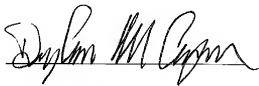
DECLARATION UNDER 37 CFR § 1.132

Douglas M. Carper, hereby certifies the following:

1. I am a joint inventor of all the claims of the patent application identified above and I am a joint inventor of the subject matter described and claimed therein.
2. I have extensive knowledge of the compositions of ceramic matrix composites and methods of forming ceramic matrix composite laminate materials by infiltrating layered perform lamina.
3. I have observed the presence or absence of porosity and the presence or absence of a continuous matrix rich layer when forming a ceramic matrix composite laminate by the prior art method of interposing a woven fiber mat between adjacent perform lamina.
4. I have observed that when a composite laminate is formed by interposing a woven fiber mat between preform adjacent lamina and infiltrating the layered mats with a ceramic material, a continuous matrix rich layer is formed between the adjacent woven fiber mats, the matrix rich layer having a porosity greater than the infiltrated adjacent woven fiber mats.
5. I have observed that when a composite laminate is formed by interposing a nonwoven fiber mat formed of chopped ceramic fibers between preform adjacent lamina and infiltrating the layered mats with a ceramic material, no continuous matrix rich layer is formed between the adjacent woven fiber mats and the space between the adjacent woven fiber mats is substantially free of porosity.
6. It is my belief, based on at least these observations, that a ceramic matrix composite laminate formed by the pending claimed method of interposing a nonwoven fiber mat formed of chopped ceramic fibers between preform lamina and infiltrating the adjacent preform lamina with a ceramic material is characteristically distinguishable from a ceramic matrix composite laminate formed by interposing a woven fiber mat between adjacent preform lamina and infiltrating the adjacent perform lamina with a ceramic material.

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7. I hereby acknowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon, and I hereby declare that all statements made in this declaration of my own knowledge are true and that all statements made on information and belief are believed to be true.

A handwritten signature in black ink, appearing to read "Douglas M. Carper", written over a horizontal line.

Douglas M. Carper